STATE	PROJECT	SHEET NUMBER

CONCRETE ROUND PIPE CULVERT

FILL HEIGHT AND PIPE CLASS TABLE

PIPE SIZE DIAMETER INCHES	MINIMUM COVER INCHES	EMBANKMENT				TRENCH			
		CLASS II	CLASS III	CLASS IV	CLASS V	CLASS II	CLASS III	CLASS IV	CLASS V
		MAXIMUM FILL HEIGHT ABOVE TOP OF PIPE IN FEET							
12	12	10	10	15	23	18	18	26	13
18	12	10	10	25	39	13	13	31	45
24	12	10	10	15	30	15	15	22	40
30	12	9	13	15	35	13	16	20	46
36	12	9	9	20	41	10	13	26	56
48	12	12	13	26	44	15	16	30	49
60	12	15	17	28	44	15	20	32	49
72	12	13	17	30	41	15	20	35	49
84	12	13	19	30		15	23	37	
96	12	13	20			15	24		
108	14	15	20			18	26		

LEGEND:

Bedding material (uncompacted).

Embankment material placed in layers not exceeding 6" compacted depth.

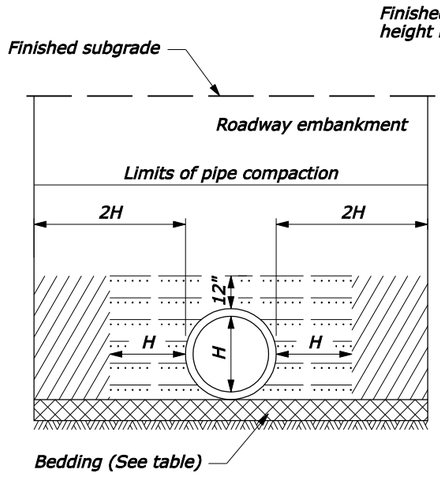
Compacted backfill material placed in layers not exceeding 6" compacted depth meeting the following:
Maximum particle size = 3"
Soil classification; A-1, A-2 or A-3
Or, lean concrete backfill in accordance with Section 614.

Impermeable backfill material.

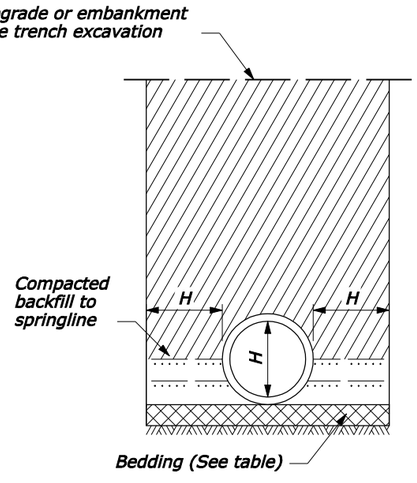
NOTE:

1. When directed, camber pipe culverts upwards from a chord through the inlet and outlet inverts an ordinate amount equal to 1% of the pipe length. Develop camber on a parabolic curve. If the midpoint elevation on the parabolic curve as designed exceeds the elevation of the inlet invert, reduce the amount of camber or increase the pipe culvert gradient.
2. Measure minimum cover from the top of the pipe culvert to the subgrade for flexible pavements, and to the top of the pavement for rigid pavements. Measure maximum fill height from the top of the pipe to the top of the pavement for both flexible and rigid pavements.
3. Pipe compaction limits shown are for pipe installation in an embankment. For pipe installation in a trench, the compaction limits shall be the walls of the trench.
4. Where unyielding or unstable material is encountered, install the pipe culvert according to the limits of pipe compaction shown on Standard 602-3.
5. Maximum fill heights for pipe culvert installations may be increased on approval of site-specific structural pipe designs meeting the criteria of AASHTO Standard Specifications for Highway bridges.

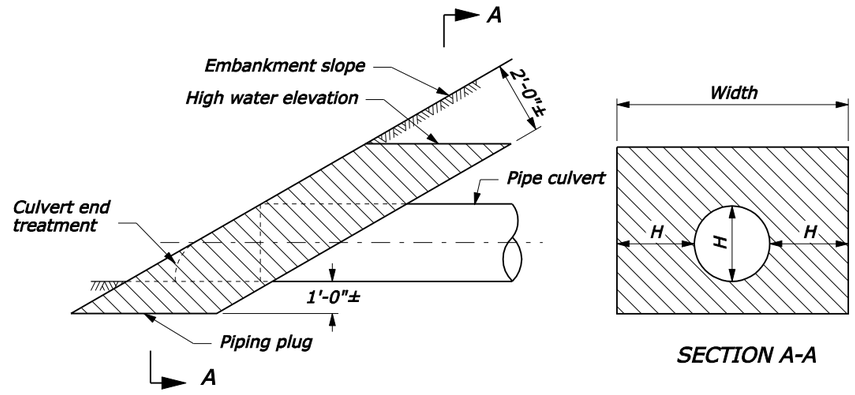
BEDDING DEPTH	
PIPE SIZE (H)	DEPTH
12" TO 54"	4"
> 54"	6"



EMBANKMENT INSTALLATION



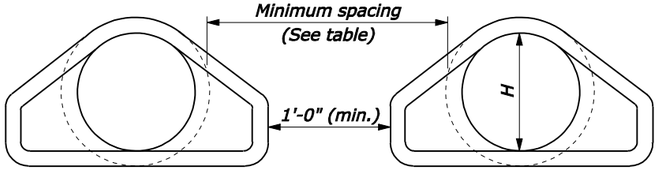
TRENCH INSTALLATION



SECTION A-A

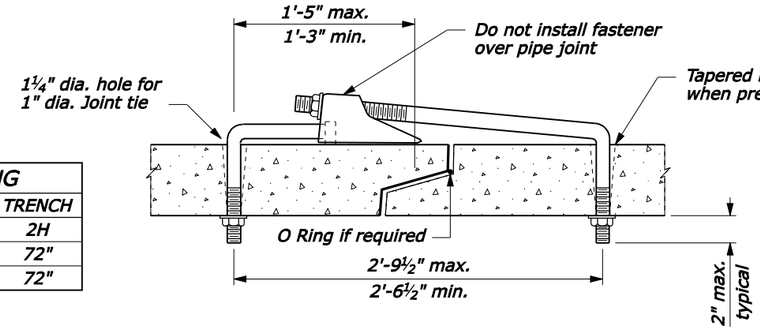
Construct a piping plug of impermeable backfill material at the pipe inlet where granular material is used for backfill. Width may be adjusted to tie into impervious material.

PIPING PLUG

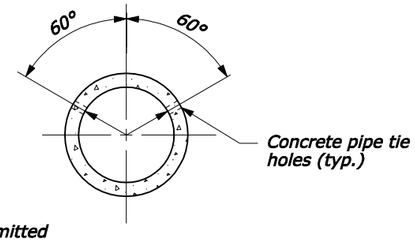


MINIMUM SPACING		
DIAMETER	EMBANKMENT	TRENCH
12"-36"	15"	2H
36"-96"	0.5H	72"
OVER 96"	48"	72"

MULTIPLE ROUND PIPE INSTALLATION



SUPPLEMENTAL CONCRETE PIPE TIE



NO SCALE

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
FEDERAL LANDS HIGHWAY

U.S. CUSTOMARY STANDARD

CONCRETE PIPE CULVERT INSTALLATION

STANDARD APPROVED FOR USE 12/1993
REVISED: 4/1994 6/2005
DRAFT: 9/2005

STANDARD 602-7

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